CLAIMS

What is claimed is:

1. A method of composing a query for application against a database, said method comprising:

a) composing a selection clause for said query, said selection clause comprising a results set related to said query;

b) composing a criteria clause for said query, said criteria clause comprising input criteria related to said query and additional criteria specified against said query; and

c) composing a source clause utilizing elements in said database identified by said query.

2. A method of composing a query for application against a database as claimed in claim 1, wherein said method further comprises the step of:

d) composing an ordering scheme for results of said query.

3. A method of composing a query for application against a database as claimed in claim 2, wherein said method further comprises the step of:

e) composing a grouping scheme for results of said query.

4. A method of composing a query for application against a database as claimed in claim 1, wherein said composing said criteria clause further comprises resolving joint relationships amongst said input criteria and said additional criteria.

5. A method of composing a query for application against a database as claimed in claim 4, wherein said composing said criteria clause further comprises adding said joint relationships to said criteria clause.

6. A method of composing a query for application against a database as claimed in claim 5, wherein said composing said source clause further comprises resolving a source after analyzing said selection clause and said criteria clause.

7. A method of composing a query for application against a database as claimed in claim 6, wherein said query is produced in SQL format.

8. A method of composing a query for application against a database as claimed in claim 7, wherein said method applies said query against said database and results of said query are provided to an output device.

9. A query transaction system comprising:

a computer;

access to a database associated with said computer; and

a query processing program operating on said computer and generating a query for said database, said query processing program comprising:

a selection clause composing module for creating a selection clause for said query, said selection clause module producing a results set related to said query;

a criteria clause composing module for creating a criteria clause for said query, said criteria clause module processing input criteria related to said query and additional criteria specified against said query; and

a source clause composing module utilizing elements in said database identified by said query.

10. A query transaction system as claimed in claim 9, wherein said query processing program further comprises an ordering module for results of said query.

11. A query transaction system as claimed in claim 9, wherein said query processing program further comprises a grouping module for results of said query.

12. A query transaction system as claimed in claim 9, wherein said criteria clause composing module further comprises a joint relationships resolving module associating said input criteria to said additional criteria.

13. A query transaction system as claimed in claim 12, wherein said criteria clause composing module further comprises a module adding said joint relationships to said criteria clause.

14. A query transaction system as claim in claim 13, wherein said source clause composing module resolves said source after analyzing said selection clause and said criteria clause.

15. A computer readable information storage medium including a computer readable program encoded on said medium, said program comprising a method of composing a query for application against a database, said method comprising:

composing a selection clause for said query, said selection clause comprising a results set related to said query;

composing a criteria clause for said query, said criteria clause comprising input criteria related to said query and additional criteria specified against said query; and

composing a source clause utilizing elements in said database identified by said query.

16. The computer readable information storage medium in claim 15, wherein said method of said computer program further comprises composing an ordering scheme for results of said query.

17. The computer readable information storage medium in claim 16, wherein said method of said computer program further comprises composing a grouping scheme for results of said query.

18. The computer readable information storage medium in claim 15, wherein said method of said computer program composes said criteria clause by resolving joint relationships amongst said input criteria and said additional criteria.

19. The computer readable information storage medium in claim 18, wherein said method of said computer program composes said criteria clause by adding said joint relationships to said criteria clause.

20. The computer readable information storage medium in claim 19, wherein said method of composing said source clause further comprises resolving a source related to said database after analyzing said selection clause and said criteria clause.

21. The computer readable information storage medium in claim 20, wherein said query is applied against said database and results of said query are provided to an output device.

22. A computer readable modulated carrier signal including a computer readable program encoded on said carrier signal, said program comprising a method of composing a query for application against a database, said method comprising:

composing a selection clause for said query, said selection clause comprising a results set related to said query;

composing a criteria clause for said query, said criteria clause comprising input criteria related to said query and additional criteria specified against said query; and

composing a source clause utilizing elements in said database identified by said query.

23. The computer readable modulated carrier signal in claim 22, wherein said method of said computer program further comprises composing an ordering scheme for results of said query.

24. The computer readable modulated carrier signal in claim 23, wherein said method of said computer program further comprises composing a grouping scheme for results of said query.

25. The computer readable modulated carrier signal in claim 22, wherein said method of said computer program further comprises composing said criteria clause by resolving joint relationships amongst said input criteria and said additional criteria.

26. The computer readable modulated carrier signal in claim 25, wherein said method of said computer program further comprises composing said criteria clause by adding said joint relationships to said criteria clause.

27. The computer readable modulated carrier signal in claim 26, wherein said method of said computer program composes said source clause by resolving a source related to said database after analyzing said selection clause and said criteria clause.

28. The computer readable modulated carrier signal in claim 22 wherein said signal is a transmission over a network.

29. A method for evaluating traversal paths amongst a plurality of tables in a database, the database comprising at least a first table and a second table, the method comprising:

a) for each table of the plurality of tables:

a1) identifying all tables directly accessible by each table; and

a2) creating a data structure comprising an entry for each table, the entry comprising an identification field for each table and a link field identifying all tables directly accessible by each table;

b) for each entry for each table in the data structure, traversing the data structure to visit all other entries for all other tables in the data structure, if possible, using contents of the link field of each entry for each table; and

c) identifying an optimum path of the traversal paths utilizing data obtained from the traversing in step (b).

30. The method for evaluating traversal paths in claim 29, wherein the identifying step (c) further comprising the step of tracking a number of hops taken to visit all other entries for all other tables in the data structure.

31. The method for evaluating traversal paths in claim 28 wherein the data structure comprises a linked list.

32. The method for evaluating traversal paths in claim 31 wherein said data structure is traversed in a breadth first manner.

33. The method for evaluating traversal paths in claim 31 wherein said data structure is traversed in a depth first manner.

34. The method for evaluating traversal paths in claim 31 wherein said optimum path is identified utilizing said number of hops taken to visit said all other entries.

35. The method for evaluating traversal paths in claim 34 wherein for each table of the plurality of tables, the data structure further comprises a second link field identifying tables which directly access each table.

36. The method for evaluating traversal paths in claim 35, wherein a value of the optimum path is provided to an output device.

37. A database analysis system comprising:

a computer;

access to a database associated with said computer, said database comprising a plurality of tables, the plurality of tables including at least a first table and a second table; and

a database traversal program associated with said computer for evaluating traversal paths between said first table and said second table, said database traversal program comprising a method comprising:

for each table of said plurality of tables:

identifying all tables directly accessible by each table; and

creating a data structure comprising an entry for each table, said entry comprising an identification field and a link field identifying all tables directly accessible by each table;

for each entry for each table in said data structure, traversing said data structure to visit all other entries in said data structure, if possible, using contents of said link field of each entry for each table; and

identifying an optimum path of said traversal paths utilizing data obtained from traversing entries in said data structure.

38. The database analysis system, as claimed in claim 37, wherein said method further comprises tracking a number of hops taken to visit said all other entries for all possible traversal routes to said all other entries.

39. The database analysis system, as claimed in claim 38 wherein said optimum path is identified utilizing said number of hops taken to visit said all other entries.

40. The database analysis system, as claimed in claim 37 wherein said data structure comprises a linked list.

41. The database analysis system, as claimed in claim 37 wherein said data structure is traversed in a breadth first manner.

42. The database analysis system, as claimed in claim 37 wherein said data structure is traversed in a depth first manner.

43. The database analysis system, as claimed in claim 37 wherein for each table of said plurality of tables, said data structure further comprising a second link field identifying tables which directly access each table.

44. A computer readable instruction storage medium including a database traversal program encoded on said medium for evaluating traversal paths in a database, said database comprising a plurality of tables, said database traversal program comprising a method, said method comprising:

for each table of said plurality of tables:

identifying all tables directly accessible by each table; and

creating a data structure comprising an entry for each table, said entry comprising an identification field and a link field identifying said all tables directly accessible by each table;

for each entry for each table in said data structure, traversing said data structure to visit all other entries in said data structure, if possible, using contents of said link field of each entry for each table; and

identifying an optimum path of said traversal paths utilizing data obtained from traversing entries in said data structure.

45. The computer readable instruction storage medium in claim 44, wherein said method further comprising tracking a number of hops taken to visit said all other entries for all possible traversal route to said all other entries.

46. The computer readable instruction storage medium in claim 45 wherein said data structure comprises a linked list.

46. The computer readable instruction storage medium in claim 46 wherein said data structure is traversed in a breadth first manner.

47. The computer readable instruction storage medium in claim 46 wherein said data structure is traversed in a depth first manner.

48. The computer readable instruction storage medium in claim 46 wherein said optimum path is identified utilizing said number of hops taken to visit said all other entries.

50. The computer readable instruction storage medium in claim 46 wherein for each table of said plurality of tables, said data structure further comprises a second link field identifying tables which directly access each table.